

**Municipality/Organization:** Town of Dennis

**EPA NPDES Permit Number:** MAR041103

**MaDEP Transmittal Number:** W-041145

**Annual Report Number**

**& Reporting Period:** No. 4: March 06-March 07

## **NPDES PII Small MS4 General Permit Annual Report**

### **Part I. General Information**

**Contact Person:** Joseph A. Rodricks

**Title:** Town Engineer

**Telephone #:** 508-760-6145

**Email:** jrodricks@town.dennis.ma.us

#### **Certification:**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Signature:** 

**Printed Name:** Robert F. Canevazzi

**Title:** Town Administrator

**Date:** May 31, 2007

## **Part II. Self-Assessment**

The Town of Dennis has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

### Part III. Summary of Minimum Control Measures

#### 1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1.1	Provide literature & pamphlets	Natural Resource Officer- George MacDonald	Provide literature w/ off-road & shellfish permits	Brochures in information tree in office.	Continue to expand and update brochure selection.
Revised					
1.2	Provide Public awareness classes	Shellfish Officer A. Marcy	Provide Information to school children	Developed outreach program CRABS. (Commercial Recreational Association for Better Shellfish) Developed web site <a href="http://www.denniscrabs.com">www.denniscrabs.com</a>	CRAB volunteers to develop programs and activities aimed at educating public on pollution of estuaries.
Revised					
1.3	Provide Literature & Information	Town Engineer J. Rodricks	Provide Information booth at Chamber of Commerce Fair	Posters distributed by Cape Co Groundwater Guardian Project maintained at 4 public buildings. Participated as active member in Barnstable County "PROJECT STORM" New Department webpage has link to NPDES website.	Continue to improve information on Department web page.. Continue to work with other Cape communities in public outreach under the Barnstable County "Project Storm" initiative.
Revised					

#### 1a. Additions


## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
2.1 Revised	Sponsor & Advertise Household Hazardous Waste Collection Days	Board of Health  Terry Hayes, Health Director	Encourage proper disposal of hazardous materials	Two (2) Household Hazardous Waste Collection Days held: June 3, 2006 with 2525 Gallons collected; Sept. 9, 2006 with 1845 gallons collected.	Two (2) Household Hazardous Waste Collection Days to be held June 2, 2006 and September 8, 2006. Continue to do advertisements & mailings to residents and businesses that are small quantity generators.
2.2 Revised	Volunteer Coast Sweep	CZM/Natural Resource Officer- Brian Malone	Annual Beach Cleaning	One day coastal sweep with 40 volunteers cleaned approx. 3 miles of shoreline along Cape Cod Bay in vicinity of Chapin Beach and "Crowe's Pasture".	Repeat & expand Coastal Sweep in September 2007
2.3 Revised	Pet waste management	Animal Control Officer- Cheryl Malone	Provide disposal mitts and waste receptacles at Town Beaches  Create "Waste Disposal" By-law	Researched most effective disposal mitts and waste receptacles products and obtained prices.	Place disposal mitt receptacles at Fresh Pond Dog Park and Chapin Beach as trial run and to monitor effectiveness. Install additional signs on Town Beaches relative to Dog Waste Disposal Bylaw and fine.
2.4 Revised	Proper Disposal of Boat Septic Storage Tanks	Harbor Master- Terrence Clen	Notify Boat Owners annually	Flyer listing pump out facilities mailed to slip and mooring owners with applications.	List of pump out facilities and their environmental benefit in the Dennis Harbor "Scuttlebutt" newsletter published in December.
Revised					
Revised					

### 2a. Additions

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### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
3.1 Revised	Identify Discharge and Map Discharges	Town Engineer- Joseph Rodricks	Identify & prioritize	Applied for and successfully obtained a CPR Pollution Grant to fund the elimination of flows from two outfall pipes into Bass River from Follins Pond Road and Shore Drive. Design, bid and construct stormwater mitigation measures for removal of outfall pipes into Bass River from Leif Erickson Drive, Old Fishhouse Road and Hawthorn Road. Constructed stormwater retention pond and drainage system to eliminate outfall pipe into Swan River Road from Upper County Road	Design drainage remediation of the Rte 28 outfall pipe into Bass River. Design and construct drainage to remove direct flow into Quivet Creek from Sea Street.  Seek funding for design of wider railroad bridge over Bass River to improve tidal flow.
3.2 Revised	Notify Owners of Violation eliminate using BMP	Town Engineer Joseph Rodricks	Identify & eliminate all known discharges.	Worked with the Comprehensive Wastewater Task Force Subcommittee on Stormwater Mitigation to develop by-law to control runoff.	Continue monitoring and data accrual and issue advisories as needed. Comprehensive Wastewater Task Force Subcommittee on Stormwater Mitigation to place final draft of by-law to control runoff out for public comment and approval..
3.3 Revised	Enforcement Agency	Police Chief M. Whalen	Enforcement of Sate Illegal Disposal Law	Assisted DPW with the investigation and mitigation of possible illegal discharge locations.	Add literature and information on illegal activities to Department web site.
Revised					
Revised					

Revised					

**3a. Additions**


#### 4. Construction Site Storm Water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
4.1	Propose By-law	Dennis Selectmen-	Storm water & erosion control Standards & Enforcement	Dennis Comprehensive Wastewater Management Task Force Subcommittee continued work on the final draft of a proposed by-law for stormwater runoff control..	Finalize draft of by-law for presentation to general public for comment.
Revised	<i>Storm water management By-Law</i>	Chair Jane Otis			
4.2	Order of Conditions	Conservation Commission-Donald Waldo Chairman	Eliminate Runoff & erosion during construction.	Issued Orders of Conditions for construction projects with no discharge allowed.	Continue to require the elimination of any storm water runoff.
Revised					
4.3	Subdivision Rules & Regulations	Planning Board W. Murray, Chair	Eliminate runoff & erosion during construction.	Monitored subdivision plans for possible storm water runoff. No action required.	Continue monitor and prevention. Consider revisions to Rules and Regulations to reduce soil erosion and sediment transportation into road drainage systems and waterways.
Revised					
Revised					
Revised					

#### 4a. Additions

4.3	Estuary study	Dennis Comprehensive Wastewater Management Task Force.	Evaluate Swan River, Swan Pond, Sesuit Creek and Chase Garden Creek and establish Total Maximum Daily Limit for nitrogen loading	Conducted water sampling using Water Quality Committee volunteers under the direction of the Board of Health Agent as part of the DEP/SMASST study to establish the Total Maximum Daily Limit for Nitrogen Loading for estuaries.	Continue sampling of estuaries and development of a TMDL for Nitrogen to be used to for implementing mitigation measures.
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## 5. Post-Construction Storm Water Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
5.1	Propose By-Law	Board of Selectmen-	Storm water & Erosion Control Standards & enforcement	CWMTF subcommittee developed draft of stormwater runoff by-law.	Finalize draft of by-law for presentation to general public for comment.
Revised		Chair Jane Otis			
Revised					
Revised					
Revised					
Revised					
Revised					

### 5a. Additions


## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
6.1	Street sweeping/ basin cleaning/ roadside mowing	DDPW Superintendent- D. Johansen	Maintenance of Drainage	Completed 2 year Town wide catch basin cleanout of all 3200 basins.. Developed a Stormwater BMP for the Bass Rover/Kelly's Bay/Follins Pond area	Continue to evaluate and prioritize basins to be cleaned targeting areas of greatest potential impact of estuaries. Increase number of basins cleaned.  Maintain Stormwater BMP for the Bass Rover/Kelly's Bay/Follins Pond area
Revised					
6.2	Existing enclosed salt storage.	DPW Superintendent D. Johansen	Exposure reduction	No action taken.	Continue to acquire pertinent facts and information to develop sand & salt spreading policy.
Revised					
6.3	Regular vehicle maintenance	DPW Superintendent- D. Johansen	Exposure reduction	Regular vehicle maintenance instituted.	Continue to refine a computerized maintenance program .
Revised					
6.4	Existing enclosed vehicle storage & wash bay.	DPW Superintendent- D. Johansen	Exposure reduction	Weekly vehicle cleaning policy instituted.	Continue to refine policy for cleaning and maintenance.
Revised	<i>Schedule weekly vehicle cleaning &amp; assessment.</i>				
6.5	Invite NEIWPC to speak	DPW Superintendent- D. Johansen	Provide information to employees	Participated in Barnstable County "Project Storm" seminar and fact finding field trip to UNH Campus to view alternate BMP treatment methods.	Continue to enroll employees into seminars and demonstrations promoted by Bay State Roads and other organizations as they are scheduled.
Revised	<i>Employees education</i>		Exposure reduction.		
	Tidal stream cleanup.	Shellfish Officer A. Marcy	Pollutant removal	Worked with the "Cape Cod Salties" volunteers to clean up the Bound Brook herring run.	Repeat and expand cleanup.
Revised					

**6a. Additions**

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**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 3 (Reliance on non-municipal partners indicated, if any)</b>	<b>Planned Activities – Permit Year 4</b>
7.1	Installation of leaching drainage systems	DDPW Superintendent D. Johansen	Exposure reduction	Completed construction of replacement drainage system on Upper County Road at Swan River Road that will remove outfall pipe. Completed installation of larger culvert for Sesuit Creek under Dr. Lord's South in effort to improve herring run. Completed reconstruction of Horsefoot Cove and Uncle Freeman's Landings that included stormwater subsurface leaching systems.	Install subsurface leaching system to reduce direct outfall into Quivet Creek from Sea Street, East Dennis.
Revised					
7.2	Water quality sampling	DMF/Natural Resources- Brian Malone-Dept Head	Ensure water quality	Samples taken in Scargo Lake, Hiram Pond, Coles Pond and Fresh Pond.	Continue and refine sampling program.
Revised					
7.3	Use compost material to stabilize shoulders	DPW Superintendent- D. Johansen	Erosion control	No action taken in pertinent areas.	Continue and improve slope stabilization where necessary.
Revised					
7.4	Coastal Pollutant Remediation Program	Town Engineer J. Rodricks	Exposure Reduction and/or elimination	Town applied for and was awarded a Non Point Source Pollution mitigation grant for the remediation of three outfall drainage systems into Bass River.	Design pollution mitigation at Bass river Park for Route 28 drainage system. Eliminate
Revised					
7.5	Weekly Water Sampling of Beaches	Town Health Director Terry Hayes	Ensure water quality	Samples taken and tested weekly beginning June 9th through August 29, 2006. Additional tests taken on days of 1" or greater rainfall. During summer of 2006 one beach was closed for one day.	Repeat testing program.
Revised	Water sampling o beaches during summer weeks.				

Revised					
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## 7a. Additions

7.6	Salt Marsh Restoration program	Natural Resource Dept. Brian Malone, Dept. Head.	Increased tidal flushing.	Culvert replacement for Sesuit Creek under Bridge Street . 75 % designed, Dennis ConCom approval obtained and various state & local permits applied for.	Sesuit Creek under Bridge Street. Complete final design & construct of twin 12' x 10' box culverts to replace a failing 24" pipe.  Weir Creek salt march restoration feasibility study

## 7b. WLA Assessment

For several years the Town has identified the Bass River and Kelley's Bay area as the highest priority for immediate implementation of BMPs. In conjunction with the Town of Yarmouth the Town of Dennis was again granted funding for construction of several remediatory drainage systems that are the highest prioritized locations. Additionally, the Department of Public Works has continued its program of identifying and mitigating potential upgradient pollution sources. The Town also applied for Mass CZM Non-point Source Pollution grant to design mitigation measures for the existing Route 28 (State Highway) outfall pipe into Bass River but was denied. The Town is currently attempting to add mitigation measures into the design of park improvements at the newly acquired Bass River Park.

#### Part IV. Summary of Information Collected and Analyzed

Water quality testing of Town beaches during the months of June, July and August 2006, resulted in 1 day of beach closure.

#### Part V. Program Outputs & Accomplishments (OPTIONAL)

##### Programmatic

Storm water management position created/staffed	(y/n)	No
Annual program budget/expenditures	(\$)	\$110,000

##### Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	10 %
Storm water management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned	( yes)	3 mi
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2
▪ community participation	(%)	411 persons
▪ material collected	(tons or gal)	4370 gal
School curricula implemented	(y/n)	No

**Legal/Regulatory**

	In Place Prior to Phase II	Under Review	Drafted	Adopted
<b>Regulatory Mechanism Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination		X		
▪ Erosion & Sediment Control			X	
▪ Post-Development Stormwater Management			X	
<b>Accompanying Regulation Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination		X		
▪ Erosion & Sediment Control		X		
▪ Post-Development Stormwater Management		X		

**Mapping and Illicit Discharges**

Outfall mapping complete	(%)	95 %
Estimated or actual number of outfalls	(#)	56
System-Wide mapping complete	(%)	40%
<b>Mapping method(s)</b>		
▪ Paper/Mylar	(%)	90 %
▪ CADD	(%)	30 %
▪ GIS	(%)	50 %
Outfalls inspected/screened	(# or %)	1
Illicit discharges identified	(#)	0
Illicit connections removed	(# )	0
	(est. gpd)	
% of population on sewer	(%)	0 %
% of population on septic systems	(%)	100 %

## Construction

Number of construction starts (>1-acre)		5
Estimated percentage of construction starts adequately regulated for erosion and sediment control		100
Site inspections completed		4
Tickets/Stop work orders issued		1
Fines collected		0
Complaints/concerns received from public		1

## Post-Development Storm Water Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction storm water control	(%)	0 %
Site inspections completed	(# or %)	10
Estimated volume of storm water recharged	(gpy)	100

## Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1 every 3 yrs
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1 every yr
Total number of structures cleaned	(#)	3240 over 2 yrs
Storm drain cleaned	(LF or mi.)	0 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	13000 tons-2yrs
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	0



Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1 yr
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	3 x /yr
Qty. of sand/debris collected by sweeping	(lbs. or tons)	650 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill
Cost of sweepings disposal	(\$)	0
Vacuum street sweepers purchased/leased	(#)	1
Vacuum street sweepers specified in contracts	(y/n)	0

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	5%
▪ Herbicides	(lbs. or %)	5%
▪ Pesticides	(lbs. or %)	5%

Anti-/De-Icing products and ratios	% NaCl	50%
	% CaCl <sub>2</sub>	32%
	% MgCl <sub>2</sub>	0%
	% CMA	0%
	% Kac	0%
	% KCl	0%
	% Sand	50%
Pre-wetting techniques utilized	(y/n)	y
Manual control spreaders used	(y/n)	y
Automatic or Zero-velocity spreaders used	(y/n)	y
Estimated net reduction in typical year salt application	(lbs. or %)	0%
Salt pile(s) covered in storage shed(s)	(y/n)	y
Storage shed(s) in design or under construction	(y/n)	n